The Problem of Prognosis in Pancreatitis

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SUMMARY

Prognosis in pancreatitis is at best difficult and uncertain. Certain complicating factors, however, occur in statistically established percentages of chronic cases: Calcification in 35 to 50 per cent, diabetes (usually mild) in 15 to 25 per cent, and cysts, pseudo-cysts or abscesses in 10 to 15 per cent. Steatorrhea (which may cause severe malnutrition) and diabetes are more common in cases in which calcification develops.

THE prognosis of pancreatitis presents a problem which is but partially solved. A sound prognosis should foretell the immediate outlook for life, the course of the disease, and the degree of recovery to be expected. What, then, is the outlook for life in an initial attack of pancreatitis? How often is acute pancreatitis an acute self-limited disease? How often is it merely an introduction to the more dolorous syndrome of chronic relapsing pancreatitis? Because these prophecies could not be made, help was sought from a review of the patients with pancreatitis who had been admitted to the Southern Pacific General Hospital in the years 1927 to 1946. Of the 42 cases, 27, proved by laparotomy or autopsy, could be followed for from three to twenty-two years. Of the 27 patients, 11 died, all during the first severe attack. This represents a mortality rate of 40 per cent, which is considerably lower than has been reported in some other series. Of the 16 patients who lived, seven now have relapsing pancreatitis. The histories and clinicopathological pictures of the 11 patients who died were in no way strikingly different than of the 16 who lived. Those who died were not subjected to more hazardous operative procedures. In general the treatment of the patients who died was not essentially different from that of those who recovered. If, then, the chance for recovery from an initial attack of acute pancreatitis is 60 per cent, why, in the two rather similar cases which follow, did one patient die and the other recover?

TABLE 1.—*Analysis of 11 Cases of Pancreatitis in Which Death Occurred*

	Type of Disease	
	Acute	Relapsing
Cases, initial attack	27	7
Deaths	11	0
Exploratory laparotomy	4	4
Cholecystotostomy	2	3
No operation	5	0
Mortality	40 per cent	0

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TABLE 2.—*Analysis of 16 Cases in Which Patients Lived*

	Asymptomatic	Recurrent Symptoms
Cases	9	7
Followed	4 to 22 years	3 to 13 years
Cholecystostomy	3	3
Exploratory laparotomy	6	4
Gallbladder disease	5	3

CASE REPORTS

CASE 1: A 51-year-old male was admitted to the hospital complaining of severe upper abdominal pain, nausea, and persistent vomiting of one day's duration. Upon laparotomy free fluid in the abdominal cavity and disseminated fat necroses were noted. The pancreas was considerably distended and hemorrhagic. The lesser sac was drained. The patient died on the eighth postoperative day. The diagnosis following autopsy was: "Acute hemorrhagic pancreatitis. Extensive fat necrosis."

CASE 2: A 40-year-old male entered the hospital with complaint of acute onset of excruciating upper abdominal pain and persistent nausea. Laparotomy was done. When the peritoneum was opened a quantity of blood fluid escaped. There were multiple fat necroses throughout the omentum and the lesser sac. The pancreas was enlarged, firm, and hemorrhagic. The convalescence was rather stormy. The patient was discharged as "well" on the 32nd day. He remained asymptomatic for 11 years, at which time he reentered the hospital with uremia and died. At autopsy the pancreas was found to contain a moderately large cyst.

Why one patient died and the other recovered is not satisfactorily explained. Was it just a different manifestation of the severity of the same disease? Can the resistance to the disease in apparently previously healthy individuals in approximately the same age group vary so greatly?

Of the 16 living patients, nine have remained asymptomatic for from four to twenty-two years following the initial attack. Seven have had recurrent symptoms over a period of three to thirteen years. The incidence of gallbladder disease in the two groups was almost the same, as was the palliative method employed in the treatment of it. In a series of 27 cases from the Mayo Clinic,[3] nine patients had associated biliary tract diseases. Cholecystectomy was done and was followed by prolonged drainage of the common duct. Four of the patients have remained asymptomatic and five have recurrent symptoms. The results in these few cases do not differ very much from those in the present series—in which cholecystostomy without

prolonged drainage was done. The difficulty of formulating an accurate prognosis in seemingly similar forms of the disease is illustrated by two cases in the present series.

CASE REPORTS

CASE 3: A 48-year-old male entered the hospital with acute upper abdominal pain and rigidity. For several years he had had digestive upsets, usually brought on by eating fatty foods. Laparotomy was done. The gallbladder was thickened and contained stones. The head of the pancreas was enlarged and edematous. Fat necroses were found throughout the omentum. Cholecystostomy was done. The patient left the hospital on the 32nd day. He has been free of symptoms for 15 years.

CASE 4: In 1946, a 54-year-old male was admitted with complaint of indigestion and recurring bouts of severe pain in the right upper quadrant of the abdomen. Previously cholecystectomy had been done elsewhere, without relief. Laparotomy was done. There was a quantity of brownish free fluid in the peritoneal cavity. The pancreas was enlarged and edematous. Areas of induration and areas of necrosis were encountered. The patient was dismissed on the 27th day. During the past three years he has continued to have trouble and has been readmitted twice with signs and symptoms typical of chronic relapsing pancreatitis.

Although the proposition is questionable, it seems likely that pancreatitis precedes the biliary tract involvement in many cases. If, in some instances, the reverse is true, are these the cases in which the response is satisfactory following correction of the biliary tract disease?

In general the laboratory findings, unless dramatic, are not of great help in formulating a prognosis.

Lacking as the refinements of prognosis in this disease may be, there are some stable prognostic guides.

Calcification may be demonstrated in 35 per cent to 50 per cent of chronic cases at some time during the course of the disease.[5, 6, 8, 9] The extent of the calcification does not necessarily parallel the severity of the disease. There may be extensive calcification without evidence of disturbance of pancreatic function. It is estimated that in 10 per cent of the cases of pancreatic calcification there are no symptoms ascribable to the calcification. However, steatorrhea and diabetes are more common in cases in which calcification is present. Low serum calcium levels may be encountered occasionally. If the level drops below 7 mg. per 100 cc., usually the patient dies.

Diabetes eventually develops in 15 to 25 per cent of patients who have the chronic relapsing type of the disease. It is usually of a mild form. It has been stated that approximately 90 per cent of the islet tissue of the pancreas may be destroyed before diabetes becomes apparent.

Persistent steatorrhea may cause severe states of malnutrition. At times the prognosis is improved when large doses of pancreatin or fresh beef pancreas are given.

The ten to 15 per cent of patients in whom cysts,[7] pseudocysts, or abscesses develop should be carefully observed during attacks. Fever, leukocytosis, and pronounced acceleration of the sedimentation rate may indicate extensive pancreatic necrosis or spreading abscess formation. Unfortunately the surgical treatment is hazardous. Most pancreatic fistulae follow operations on cysts. Partial pancreatectomy offers a very poor prognosis in the acute or subacute inflammatory stages. If the common duct is blocked, the stasis must be relieved. Liver damage caused by prolonged obstruction definitely darkens the prognosis.

TABLE 3.—*Complications in Relapsing Pancreatitis*

	Incidence
Pancreatic calcification	35—50%
Diabetes (usually mild)	15—25%
Steatorrhea	25—30%
Cysts, pseudocysts, abscesses	10—15%
Gastrointestinal hemorrhage	Occurs

What possible hope can be offered to patients who have recurring attacks of severe upper abdominal pain? Their lives are frequently unbearable and may end in chronic invalidism, morphinism, or alcoholism. Partial or total pancreatectomy may alleviate the symptoms in selected cases. There are several series of cases in which bilateral thoracolumbar sympathectomy[1, 2, 4] has been successful in freeing the patients from recalcitrant pain. It is, of course, a procedure which merely permits the patient to live more comfortably with a damaged pancreas.

In conclusion, it would seem that the disease is even more insidious than we know. Questions that arise are whether the severity of the disease is related to the persistence and degree of the ductal obstruction and whether it is proportional to the degree of involvement of the larger or smaller ducts. Perhaps further study of other series will lead to a better classification of the disease and to more satisfactory answers to the questions.

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